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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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07/11/2003

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EXAMINER

BALASUBRAMANIAN, VENKATARAMAN

ART UNIT

PAPER NUMBER

1624

DATE MAILED: 07/11/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,954

Applicant(s)

NOWAKOWSKI ET AL.

Examiner

Venkataraman Balasubramanian

Art Unit

1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claims 1-5 are pending.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/26/2003 has been entered.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niewohner et al. WO 99/24433 in view of Dale et al. Organic Process Research & Development 4, 17-22, 2000., and Knaggs et al. in Sulfonation, Kirk-Othmer Encyclopedia of Chemical Technology, 1-13, 2000 for reasons of record.

Applicants' argument is not persuasive. Applicants still argue the three conditions of proper 103 rejection are not met with. This is incorrect. Examiner has repeated shown the factual basis for the rejection. To repeat again:

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 1624

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Determining the scope and contents of the prior art.

Niewohner et al. discloses several 2-phenyl substituted imidazotriazinones, which includes compounds claimed herein for the process for making. See formula I on page 2 and note it corresponds to compound of formula I of instant claims. See page 54-55 for the process of direct chlorosulfonation of compound of formula IV which corresponds instant compound of formula II and its subsequent reaction with amine VI. See examples 14A through 17 A, wherein Niewohner et al., teaches the direct chlorosulfonation and examples 1-337 for making the final product from the chlorosulfonated product.

Thus the scope of the prior art clearly includes direct chlorosulfonation to make sulfonylchloride.

2. Ascertaining the differences between the prior art and the claims at issue.

Instant claims differ from the reference, in reacting compound of formula II with sulfuric acid to make sulfonic acid and then convert it to the sulfonyl chloride with thionyl chloride.

Thus the scope of the instant claim is to perform sulfonation followed by conversion to sulfonylchloride of the sulfonic acid.

3. Resolving the level of ordinary skill in the pertinent art.

The issue is whether there are any prior art which would render the applicants' two-step process an obvious variant.

Dale et al. teaches a chlorosufonation of structurally related compound. See entire document especially page 18 and 19. Note Dale et al. teaches the potential hydrolysis of the chlorosulfonated product to sulfonic acid and therefore use of thionyl chloride to convert the sulfonic acid to chlorosulfonyl group.

Thus the first secondary reference clearly suggests that sulfonic acid if formed from the hydrolysis of chlorosulfonyl group can be converted to sulfonyl chloride in structurally closely related art.

Knaggs et al. teaches that sulfonation of aromatic compounds is a well known process and can be carried using sulfuric acid.

Since the primary reference teaches direct chlorosulfonation, the first secondary reference teaches conversion of sulfonic acid to chlorosulfonyl group, one having ordinary skill in the art at the time of the invention was made would have been motivated to combine both the primary and secondary references and employ the process taught by these prior art to the starting materials and reactants of the instant invention and expect to obtain the desired product because he would have expected the analogous starting materials and reactants react similarly. That is one trained in the art would have been motivated at the time of the invention to combine teachings of the primary reference and the secondary references and directly sulfonate the compound of formula II and react with thionyl chloride to make the desired chlorosulfonyl compound for further reaction with amines.

4. **Considering objective evidence present in the application indicating obviousness or nonobviousness**

The application does not offer any unexpected /superior results or any objective evidence that would suggest the instant process is not a obvious variant.

Hence, as can be seen clearly, the 103 rejection is proper and is contrary to applicants urging, is based on factual inquiry.

It is not clear why applicants are asserting the rejection is improper without showing why with the combination of the references cited one trained in the art would not be motivated to do sulfonation followed by chlorination of the sulfonic acid.

Hence the rejection is proper and is maintained.

Conclusion

Any inquiry concerning this communication from the examiner should be addressed to Venkataraman Balasubramanian (Bala) whose telephone number is (703) 305-1674. The examiner can normally be reached on Monday through Thursday from 8.00 AM to 6.00 PM. The Supervisory Patent Examiner (SPE) of the art unit 1624 is Mukund Shah whose telephone number is (703) 308-4716. The fax phone number for the organization where this application or proceeding is assigned (703) 308-4556. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

V. Balasubramanian
Venkataraman Balasubramanian

7/9/2003